

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2002-111059

(43)Date of publication of application : 12.04.2002

(51)Int.Cl.

H01L 33/00  
H01S 5/343

(21)Application number : 2000-299755

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(22)Date of filing : 29.09.2000

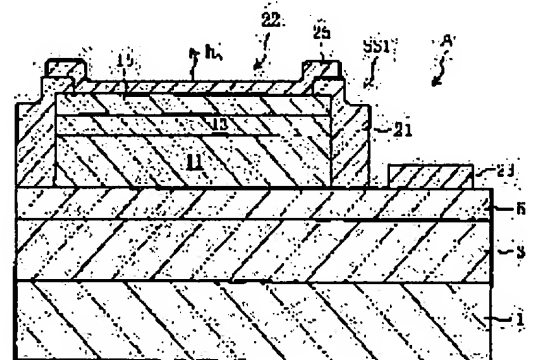
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## (54) OPTICAL SEMICONDUCTOR ELEMENT AND OPTICAL SEMICONDUCTOR DEVICE

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To prevent positive holes from overflowing to an n type clad layer of an optical semiconductor element and to prevent the light guide-out efficiency from decreasing.

**SOLUTION:** This element includes an n type  $\text{Mg}_x\text{Zn}_{1-x}\text{O}$  clad layer 5, an  $\text{In}_y\text{Ga}_{1-y}\text{N}$  active layer 11 formed thereupon, a p type  $\text{Mg}_z\text{Zn}_{1-z}\text{O}$  clad layer 15 formed thereupon, a 1st electrode 23 which electrically forms a contact for the clad layer 5, and a 2nd electrode 25 which electrically forms a contact for the clad layer 15.



### LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of

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decision of rejection]

[Date of extinction of right]

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